

**Notice of Allowability**

Application No.

09/919,192

Applicant(s)

POWERS ET AL.

Examiner

Art Unit

Ramsey Refai

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Appeal Brief filed 01/08/07.  
to,
2. ☒ The allowed claim(s) is/are 1-7, 11 and 17-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other   |

  
BUNJOB JAROENCHONWANIT  
SUPERVISORY PATENT EXAMINER

Art Unit: 2152

EXAMINER' S AMENDMENT

Responsive to Appeal Brief filed January 08, 2007. After the Examiner' s amendment below, claims 1-7, 10-11, and 17-20 are allowed.

An examiner' s amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner' s amendment was given in a telephone interview with Michael Martensen on April 25, 2007.

The application has been amended as follows:

*Please amend the following claims:*

Claim 1 (Currently Amended): A remote reconfiguration computer system, comprising:

a storage management host installed in a client data storage system, wherein the client data storage system includes a data storage subsystem having a first configuration and comprising at least one master storage unit for storing data and providing access to the stored data and one host linked to the master storage unit, and further wherein the storage management host is communicatively linked to and adapted to provide remote access to the master storage unit and the host; and

a reconfiguration center communicatively linked to the storage management host, the reconfiguration center being located remote to the client data storage system and configured for receiving a reconfiguration request for the client data storage system from the client data storage system and for, in response to the received reconfiguration request, identifying a predetermined level of reconfiguration services from a plurality of service level options, transferring a logical implementation of a second configuration to the client data storage system

Art Unit: 2152

via the storage management host, wherein the client data storage system is operable to process the logical implementation to configure the data storage subsystem in the second configuration, wherein the logical implementation is selected or created based on the reconfiguration request, ~~and the first configuration[[.]],~~ and the identified level of reconfiguration services.

Claim 7 (Currently Amended): A method for remotely reconfiguring a data storage system, comprising:

installing a storage management host within a client data storage system and communicatively linking the storage management host to a remotely-located reconfiguration system and to a master storage unit in the client data storage system;

monitoring the client data storage system;

based on the monitoring, transmitting from the remotely-located reconfiguration system a recommended reconfiguration for the master storage unit to the client data storage system;

at the remotely-located reconfiguration system, receiving a reconfiguration request for the client data storage system from the client data storage system;

in response to the receiving of the reconfiguration request, determining a first configuration of the master storage unit with the remotely-located reconfiguration system;

identifying a level of reconfiguration services from a plurality of service level options for the client data storage system;

transferring from the remotely-located reconfiguration system a logical implementation of a data storage system configuration to the storage management host, the logical implementation being generated based on the reconfiguration request, the first configuration, the identified level of reconfiguration services, and results of the monitoring; and

Art Unit: 2152

executing the logical implementation to reconfigure the master storage unit from the first configuration to a second configuration.

Claim 9 (Currently Canceled)

Claim 10 (Currently Amended): The method of ~~claim 9~~ claim 7, wherein the service level options comprises services selected from the group consisting of changing logical unit number (LUN) size, cache blocking, establishing hot standby, changing RAID, logically moving the master storage unit or a portion thereof, changing mainframe device type, adding channels, increasing performance, and providing ongoing configuration monitoring.

- The following is an examiner's statement of reasons for allowance:

None of the prior art of record, neither singly nor in combination, teach a method for remotely reconfiguring a data storage system, comprising installing a storage management host within a client data storage system and communicatively linking the storage management host to a remotely-located reconfiguration system and to a master storage unit in the client data storage system; monitoring the client data storage system; based on the monitoring, transmitting from the remotely-located reconfiguration system a recommended reconfiguration for the master storage unit to the client data storage system; at the remotely-located reconfiguration system, receiving a reconfiguration request for the client data storage system from the client data storage system; in response to the receiving of the reconfiguration request, determining a first configuration of the master storage unit with the remotely-located reconfiguration system; identifying a level of reconfiguration services from a plurality of service level options for the client data storage system; transferring from the remotely-located reconfiguration system a

Art Unit: 2152

logical implementation of a data storage system configuration to the storage management host, the logical implementation being generated based on the reconfiguration request, the first configuration, identified level of reconfiguration services, and results of the monitoring; and executing the logical implementation to reconfigure the master storage unit from the first configuration to a second configuration as recited in independent claim 7.

Independent claims 1 and 17 contain similar limitations as claim 7, therefore are allowed for similar reasons.

Claims 2-6, 11, and 18-20 depend on independent claims 1, 7, and 17, therefore are allowed for similar reasons as their respective parent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramsey Refai  
Examiner  
Art Unit 2152  
April 25, 2007



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